

TWO CENTURIES
OF LEARNING

YOUR GUIDE TO
HERIOT-WATT
UNIVERSITY'S
HERITAGE



CONTENTS			
INTRODUCTION	1	A TRULY SCOTTISH UNIVERSITY WITH GLOBAL REACH	27
THE EDINBURGH SCHOOL OF ARTS: THE FIRST MECHANICS INSTITUTE	3	SCIENCE AND ENGINEERING	29
A REVOLUTION IN EDUCATION	5	LIFE SCIENCES	31
EARLY DAYS – THE WATT CONNECTION	7	BUSINESS, MANAGEMENT AND LANGUAGES	33
THE PEOPLE'S COLLEGE	9	COMPUTING, MATHEMATICS AND THE BUILT ENVIRONMENT	35
NEW HOME, NEW NAME – THE HERIOT CONNECTION	11	TEXTILES AND DESIGN	37
ACADEMIC RECOGNITION	13	THE WATT CLUB	39
AMBITIOUS EXPANSION	15	FIND OUT MORE	40
FROM COLLEGE TO UNIVERSITY	17		
A NEW CAMPUS: FOCUSED ON THE FUTURE	19		
OUR NAMESAKES – JAMES WATT AND GEORGE HERIOT	21		
HERIOT-WATT UNIVERSITY ARMS	23		
800 YEARS OF CAMPUS HISTORY: THE HIDDEN HISTORY OF RICcarton	25		



ABOVE:
Edinburgh Campus,
main entrance

RIGHT:
Heriot-Watt
University Seal

INTRODUCTION

Today, Heriot-Watt University is a vibrant forward looking University at the forefront of innovation in research and teaching. But if you delve into our history you will discover that our international reputation as one of the leading UK universities for business and industry can be traced back almost 200 years. Our rich and inspiring story begins in 1821 with the World's first Mechanics Institute, a revolutionary concept in education which gave life changing opportunities for generations of young people. If you would like to find out more about our journey from a room in Edinburgh's Old Town to Scotland's most international university, read on to discover how we earned our special place in Edinburgh and Scottish history.







ABOVE:
Leonard Horner by
Samuel Lawrence

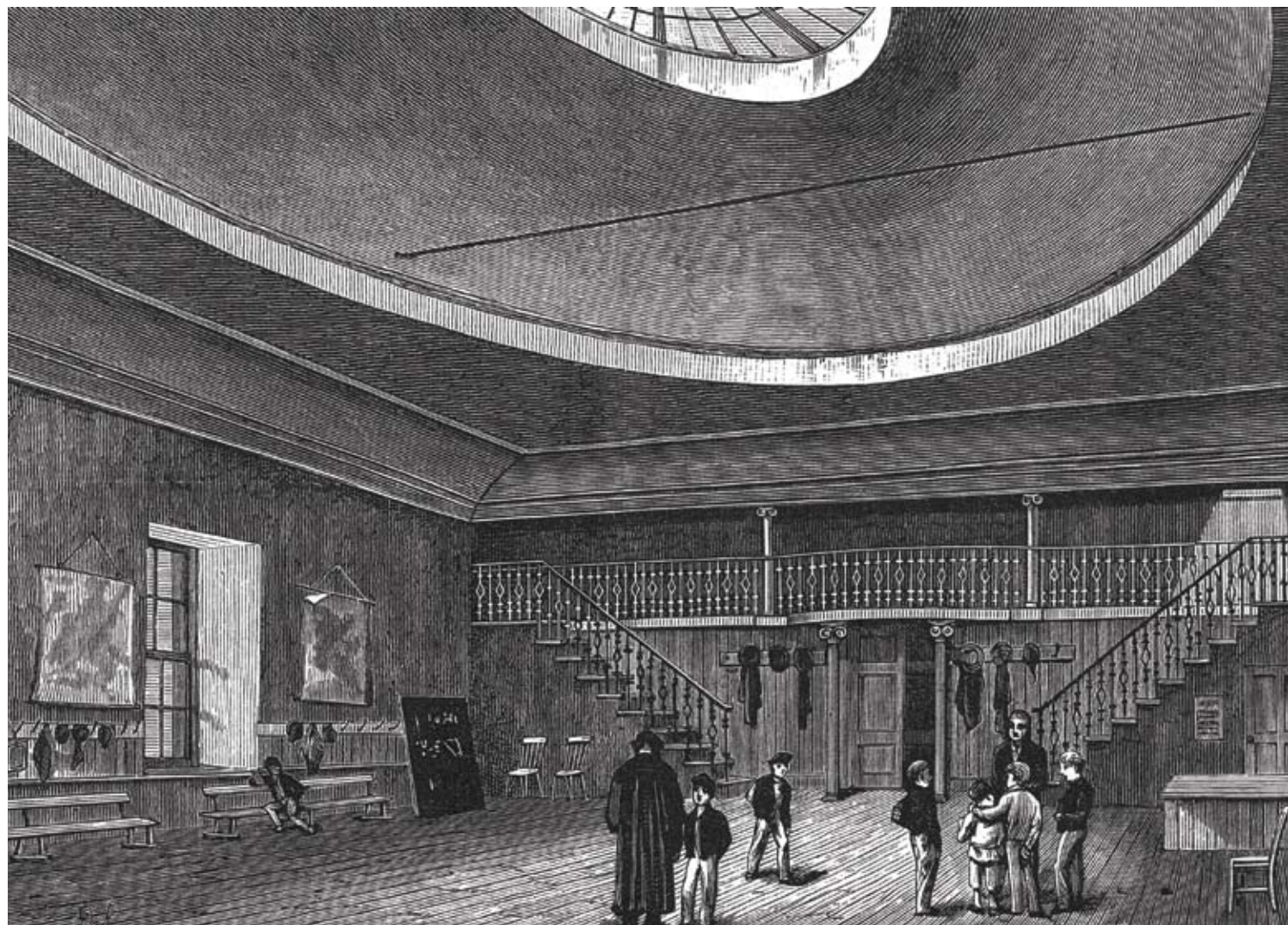
LEFT:
Edinburgh North Bridge
and Old Town, 1837,
by J D Swarbrick

THE EDINBURGH SCHOOL OF ARTS: THE FIRST MECHANICS INSTITUTE

Heriot-Watt University is the eighth oldest higher education institution in the UK. Heriot-Watt became a University in 1966 but its origins date back to 1821 and the Edinburgh School of Arts. This was the world's first Mechanics Institute designed to give ordinary people specialist education in science and technology. The School started a world wide education movement.

The School was inspired by the ideals of the 18th century enlightenment, which saw education as a vehicle for moral and material self improvement, and the challenges of the industrial revolution. Edinburgh was a centre of the Scottish Enlightenment and the home of radical thinkers like Adam Smith and David Hume. Meanwhile, businesses needed staff with ever more advanced scientific and technical knowledge to keep up with the demands of the burgeoning factory system. Industrialisation led to the growth of a new working class hungry for education and opportunity. The time was right for the Edinburgh School of Arts.

The School's founder and its first Secretary was Leonard Horner. He was a linen merchant and social reformer whose later work as chief factory inspector would lay the foundations for modern health and safety law. One day, he was talking to his friend Robert Bryson, one of Scotland's finest watch and clock makers, at his shop on Edinburgh's South Bridge. Bryson complained that his apprentices needed mathematical education but the only classes available were too expensive and held while they were at work. Horner had the perfect plan to fill the gap. In order to provide evening classes at fees that working men could afford, Horner and Bryson enlisted the help of wealthy and influential citizens such as Sir Walter Scott, Lord Cockburn, the judge and conservationist, and the Craig family of Riccarton. They agreed to give annual subscriptions to help pay the costs of running the School. An educational revolution was about to begin.





ABOVE:
Robert Bryson by
David Octavius Hill

LEFT:
St Cecilia's Hall, Niddry
Street: first home of the
Edinburgh School of Arts

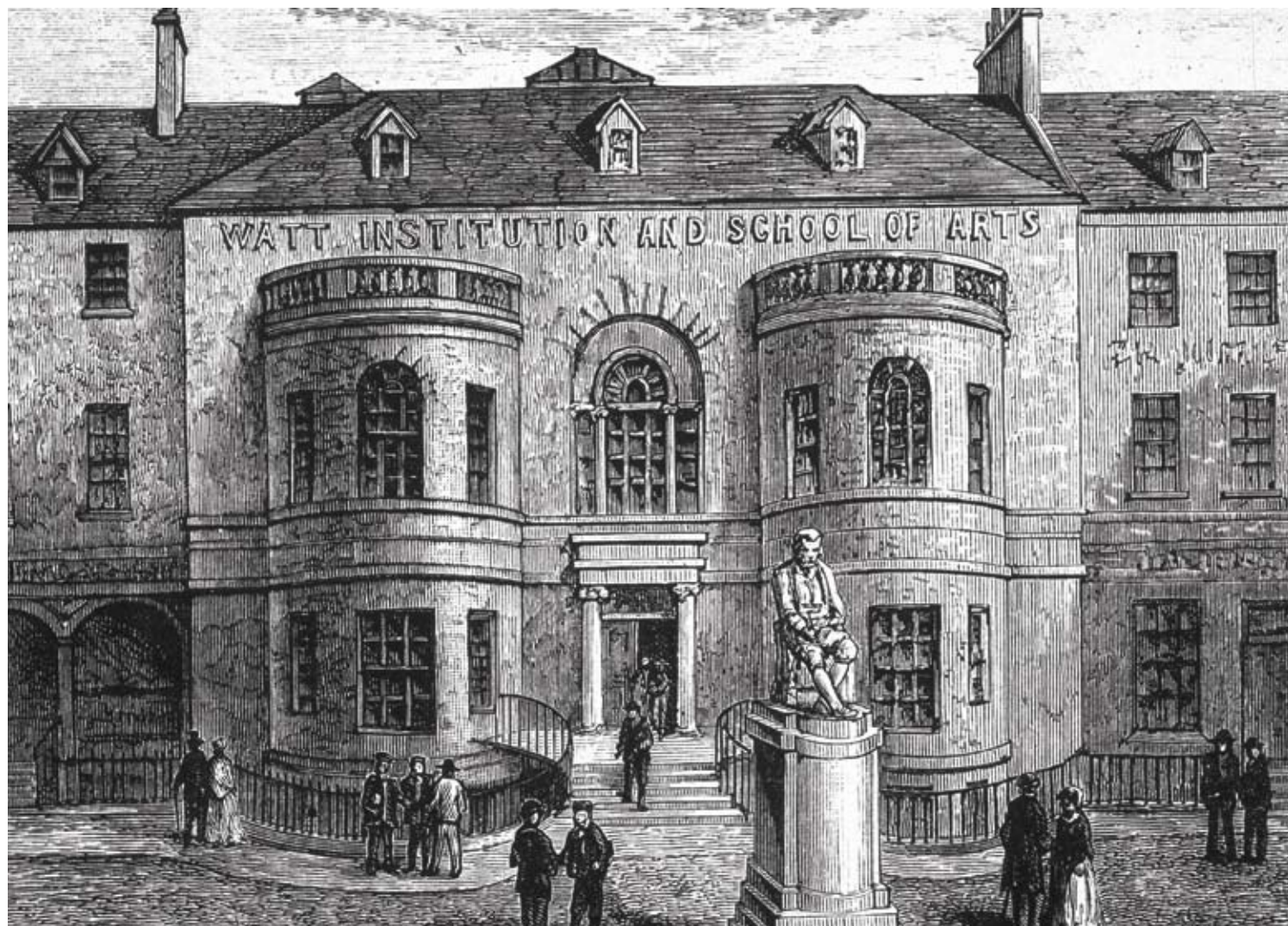
A REVOLUTION IN EDUCATION

Horner's vision of the School of Arts became reality on the evening of 16th October 1821. The School of Arts of Edinburgh "for the instruction of mechanics in such branches of physical science as are of practical application in their several trades" held its first lecture. The venue was the old St Cecilia's concert hall in Niddry Street, in the heart of Edinburgh's Old Town, rented to the School by the Freemasons. Over 300 people packed the hall to hear Dr Andrew Fyfe give the first lecture on chemistry. Several hundred more were turned away at the door. Within a month, 452 students enrolled, each paying 15 shillings – about £40 in today's money – for a year's classes.

The School was a resounding success... but it was also deeply controversial. Today we take our right to education for granted. But in the rigidly structured society of the 19th century, many regarded this as inherently dangerous. Debate raged in the pages of the Scottish press. While The Scotsman newspaper promoted the School, others argued that it would make working men question their lowly status, leading inevitably to revolution and anarchy.

With the help of supporters like the radical lawyer James Gibson – who was to become Sir James Gibson-Craig, First Baronet of Riccarton, the School faced down its critics. The Directors stressed the School's moral benefits arguing that it would distract students from the temptations of the public house and promote self-discipline and objectivity.

The Edinburgh School of Arts was hugely influential. Within 30 years there were over 700 Mechanics Institutes in Britain and emigrants had exported the movement as far away as America and Australia. The success of the Mechanics Institutes helped change public opinion. Education was increasingly no longer regarded as a privilege but as a right.





ABOVE:
James Watt by
Charles Von Breda

LEFT:
The Watt Institution
and School of Arts

EARLY DAYS – THE WATT CONNECTION

At first, the new School taught only chemistry, mechanics or natural philosophy, architecture and farriery. Two of the most able students gave informal lessons in mathematics. Working men went to some lengths to make the most of the opportunities that the School offered. One student walked 10 miles to attend evening classes at the end of a hard day's work. Plumbers, printers and smiths attended lectures alongside students from wealthier backgrounds, including a son of the eminent artist Alexander Nasmyth. He was James Nasmyth, the inventor of the steam hammer.

The School of Arts survived economic depression by halving its fees and expanding its syllabus. The School also introduced new taught classes in mathematics, English, French, drawing and ornamental modelling. Students who successfully completed a three-year course of study gained life membership of the School. In 1835 the first working class representatives joined the School's Board of Directors. By 1837 the School had outgrown its first home so the Directors leased a larger property in Adam Square.

Despite its success the School relied on donations from its wealthy subscribers to stay afloat. Over the years this income had dwindled. The School was now in deep financial trouble.

The great Scottish engineer, James Watt had long been an inspiration to staff and students. Now a fund established in his memory was to come to the School's rescue. In 1824 Henry Cockburn had launched an appeal to commemorate the great inventor by building a handsome new home for the Edinburgh School of Arts. Eventually, in 1851, the Watt Subscription Fund enabled the School to buy its Adam Square building. For now the School's future was secure. In gratitude the Directors of the School changed its name in 1852 to the Watt Institution and School of Arts.



**ABOVE:**

Mary Burton
Photograph: Tunny;
National Libraries
of Scotland

LEFT:

The Watt Institution by
J Horsburgh, 1871

THE PEOPLE'S COLLEGE

Despite being praised as the first true “people’s college”, at first the Watt Institution was entirely a male preserve. But revolution was in the air.

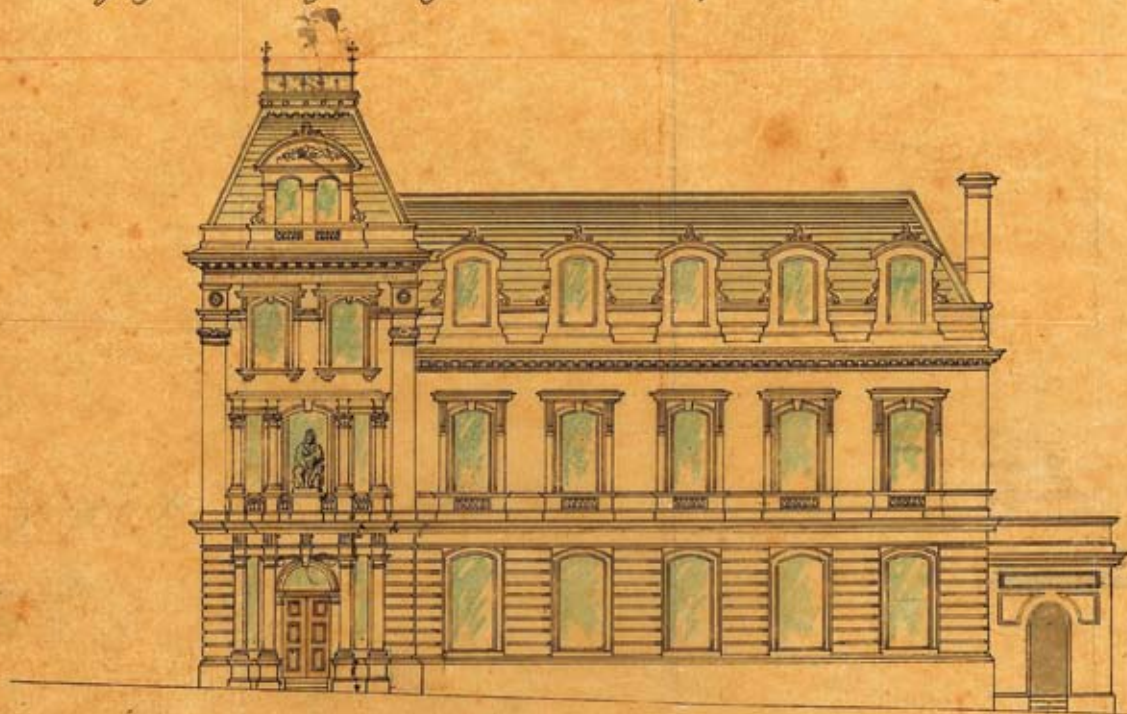
Mary Burton (1819-1909) was a pioneering campaigner for educational and social reform. She was one of the first women elected to serve on Parochial and School Boards and a tireless advocate for women’s suffrage. Mary believed that boys as well as girls should be taught to sew, knit and cook for themselves. She argued that Universities should open in the evening to admit working people and insisted that the School Board met in the evenings, when “working men” members would be able to attend.

In 1869, Mary led a successful campaign to persuade the Directors of the Watt Institution to admit women students. This was a truly radical step. It was another 20 years before legislation forced Scottish universities to open their doors to women. Even some of Mary’s fellow campaigners were scandalised by the fact that women and men were taught together in the same classes. Mary shrugged off this criticism. She became the first woman on the School’s Board of Directors and

later a Life Governor of Heriot-Watt College. She also took an active interest in the cultural life of the college as Honorary President of the Watt Literary Association.

The Watt Institution was changing. Teachers, architects, artists and dentists now studied alongside mechanics and artisans. By the late 1870s students could take their pick from a broad range of science, social science and humanities subjects. One star pupil, John Thompson, an apprentice optician, went on to earn international renown as a pioneering photographer.

N^o 2 One of the Drawings referred to by Mr. Rhind at
Meeting of Directors of School of Arts on 13th Nov^r 1842



Elevation of School of Arts as altered by Mr. Rhind and now being executed after being
approved by the Directors, and then submitted to the Improvement Trust.

David Rhind

J. H. K. Hooch





ABOVE:
George Heriot's Hospital

LEFT:
The Watt Institution's
new building in
Chambers Street, 1872

NEW HOME, NEW NAME – THE HERIOT CONNECTION

In 1866 the city of Edinburgh began ambitious plans to redevelop the Old Town and Cowgate areas. This threatened the future of the Watt Institution and School of Arts. In 1871 its Adam Square building was demolished to make way for what is now Chambers Street. Luckily the Directors secured a fine site for a new building on Chambers Street. Meanwhile the School moved into temporary accommodation in Roxburgh Place.

On 9th October 1872, a huge procession of Freemasons marched through Edinburgh to see the Grand Master Mason of Scotland, the Earl of Rosslyn, lay the foundation stone for the new building. One year later “the Watt’s” new home was open for business. Students and lecturers enjoyed purpose built lecture hall, classroom and library facilities. For the first time there was even a chemistry laboratory – though the lecturers had to provide their own chemicals and apparatus! By 1874 the Institution was already extending its new building. On the ground floor, the Henderson Trust opened a Phrenological Museum while the upper floors formed part of the Institution. The new extension opened in 1875 but the cost plunged the Watt Institution into debt.

Income from subscriptions and student fees fell far short of the cost of teaching the growing range of classes. The Directors turned for support to an educational endowment funded by the bequest of the 17th century Scottish goldsmith and philanthropist, George Heriot.

Parliament approved a scheme to merge the endowment of the Watt Institution with that of George Heriot's Trust. The link between the two institutions would last until 1927. On 12 August 1885 the Institution entered a new era as Heriot-Watt College. By this time over 2,000 students attended annually, of which 15% were women.





ABOVE:
Munitions workers in the
Engineering Laboratory

LEFT:
Heriot-Watt College
Photograph: M Wane
and Co.
Professor David Manners

ACADEMIC RECOGNITION

The College's first Principal, physicist Francis Grant Ogilvie, transformed the curriculum, introducing new day and evening classes in a wider range of subjects. In 1887 he appointed its first Professors, in Chemistry, Physics and Mechanics and Engineering. At that time only two other non-university institutions in the UK enjoyed this privilege. One of the new recruits, William Henry Perkin junior, was a leading organic chemist. The textbook he wrote with his assistant F Stanley Kipping, based on their lectures at the Watt, was used by generations of students.

By 1900, 3,900 students attended classes and the College extended its premises again. The Chambers Street building was now an imposing landmark, reflecting the College's rising status. Heriot-Watt was no longer a struggling voluntary body but a dynamic technical college.

The growing demand for advanced courses in science, technology, art, design and commerce prompted the government to reorganise education throughout Scotland. Some colleges were designated as Central Institutions. These "Technical Universities" were designed to offer courses up to degree and diploma level. Heriot-Watt

College became the Central Institution for southeast Scotland in 1902. This gave the College higher academic standing and more money from central and local government. From 1904 students who successfully completed three or four year full-time courses became Associates of Heriot-Watt College – an award soon recognised as being of university degree standard.

On the outbreak of the First World War in 1914, attendance at the College dropped dramatically as students went into the forces. The College threw itself into the war effort. The engineering laboratory became a munitions factory, employing dozens of local women. Principal Laurie turned from the forensic analysis of mediaeval art to chair a government committee on chemical weapons. Other professors researched breathing apparatus for trench warfare, mine and submarine detectors and the treatment of dysentery.





ABOVE:
College dining room,
c. 1935

LEFT:
Heriot-Watt College
Calendar, 1935

AMBITIOUS EXPANSION

By 1928, when Heriot-Watt College became independent from the George Heriot's Trust, the impact of a world wide economic depression was taking its toll. Budgets were tight, student numbers were down and the staff faced a pay cut.

A new principal, Heriot-Watt College alumnus, James Cameron Smail, led an ambitious programme to fund badly needed new buildings for teaching and research. The first two extensions which opened in 1935 and 1938 provided new lecture rooms, laboratories and a library. With a dining hall, separate common rooms for men and women and a new gymnasium that provided a venue for student dances, the college became a social hub. For the first time students had a voice in college governance through their Student Representative Council.

The College continued to nurture student talent. Christina Miller overcame deafness caused by childhood measles and rubella to gain a Diploma in Applied Chemistry in 1921. In 1949 she was one of the first women to be elected Fellow of the Royal Society of Edinburgh. Two years later she became an honorary Fellow of Heriot-Watt College. In 1934 a young school

leaver enrolled for a course in précis writing at Heriot-Watt College. Muriel Spark put her talent for economical prose to memorable use. In recognition of her literary achievements, which include the novel *The Prime of Miss Jean Brodie*, she was awarded an Honorary Degree by Heriot-Watt University in 1995.

The outbreak of the Second World War in 1939 put plans for further College expansion on hold. Staff built bomb shelters in the basements and blacked out the buildings so that day and evening classes could continue. RAF men and women took intensive courses in wireless and radar. After the war many ex-service personnel returned to continue their studies at the College.





ABOVE:
Installation of first
University Chancellor, 1966
Photograph: The Herald

LEFT:
Laboratory in the
Grassmarket, 1960s
Photograph:
© The Scotsman
Publications Ltd

FROM COLLEGE TO UNIVERSITY

In 1958 the College opened its third extension. With a building stretching from Chambers Street to the Cowgate, it was now a major presence in the heart of Edinburgh.

By now the College's links with industry had fuelled the growth of new specialist departments: Pharmacy, Brewing, Physics and Civil Engineering, each with its own professor. Lack of space at Chambers Street led Heriot-Watt to expand into the Grassmarket. There the Department of Mining opened a mine rescue station, teaching life saving skills to engineers from collieries across southeast Scotland. The College had also forged academic partnerships with Edinburgh University to teach mining, electrical and chemical engineering and trained architects at the Edinburgh College of Art in building science.

Gradually the College shed its Elementary and National Certificate classes to focus on degree level and postgraduate studies. The move of the Printing Department to Napier College in 1964 signalled the end of an era. The evolution from College to University was almost complete. In 1963 a government committee chaired by Lord Robbins made momentous proposals

for the expansion of higher education. The following year the government announced that Heriot-Watt was to be one of the first of "a new breed of technological University".

When the new University gained its charter in 1966 the College Principal Hugh Nisbet became its first Vice-Chancellor. Despite the opening of the Mountbatten building in the Grassmarket 1968 for electrical engineering, management, languages and a groundbreaking new television centre there was little room in the city centre to build new research and teaching laboratories. The students had a union building – but no bar until 1970. A new campus community was needed to combine academic buildings with sports and social facilities and student accommodation. The new University needed a new home.





ABOVE:
Heriot-Watt University
Research Park

LEFT:
Edinburgh Campus
development, 1970s

A NEW CAMPUS: FOCUSED ON THE FUTURE

In 1969 Midlothian Council bought a 248 acre parkland estate at Riccarton, six miles south west of the city centre and gifted it to the University. This became the University's Edinburgh Campus. By 1974 the first phase of academic buildings had opened, together with much needed student residences and sports facilities. It was to be nearly 20 years before all the University departments were relocated to Riccarton from the centre of Edinburgh, in 1992.

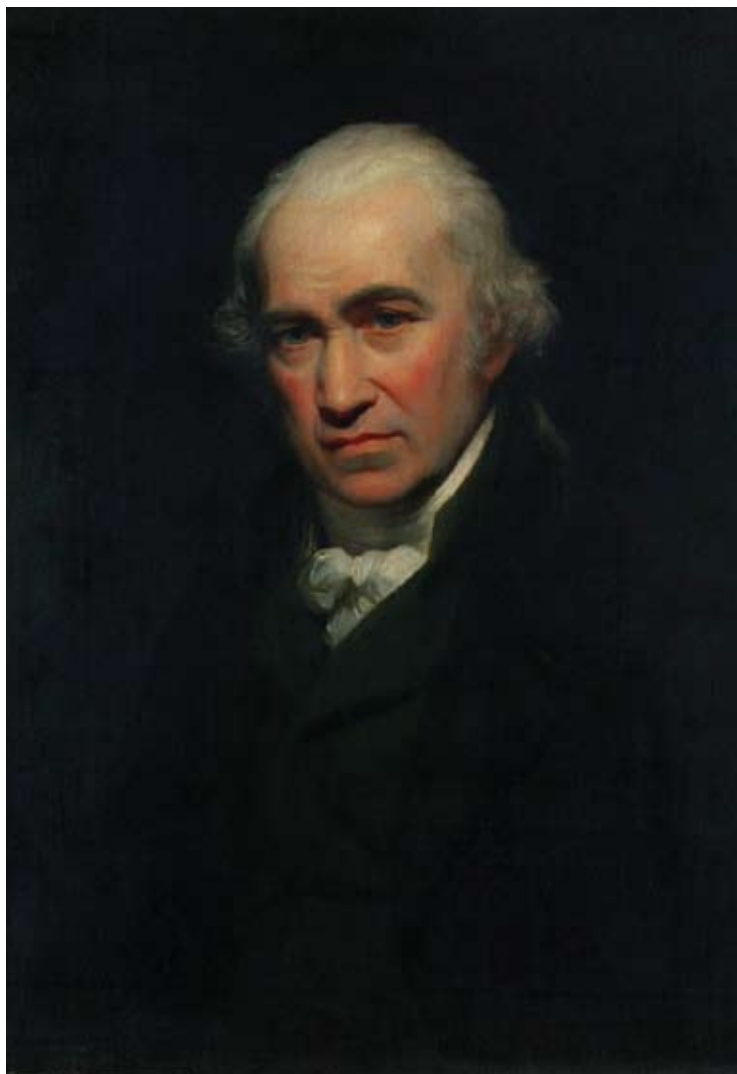
Heriot-Watt's links with industry entered a new era in 1971 when it established the first University Research Park in Europe as an integral part of its campus.

Companies could now build their own research and development laboratories and harness the commercial potential of academic research.

Heriot-Watt University has gained an international reputation for research. It is the leading UK academic centre for petroleum engineering and for actuarial mathematics. Its other strengths range from the built environment, food science and technology, robotics,

engineering and physical sciences, to mathematics and computer science, management, languages, fashion and textile design.

The University has come a long way from its beginnings as the School of Arts of Edinburgh, the first Mechanics Institute. But its founder, Leonard Horner, would still recognise Heriot-Watt University as a centre of innovation and useful learning.





ABOVE:
Model of Watt's
steam engine by
James Nasmyth

LEFT:
James Watt by
Sir William Beechey

George Heriot by
George Scougall

OUR NAMESAKES – JAMES WATT AND GEORGE HERIOT

JAMES WATT

Born at Greenock, Watt (1736–1819) was the son of a carpenter. He trained as an instrument maker in London and then practised this trade in Glasgow where he repaired a model of Newcomen's steam engine and experimented on the properties of steam. In 1769 he patented radical improvements to increase the efficiency of Newcomen's design by adding a separate condenser and valves to make the piston return to the top of the cylinder after descending. He later adapted the engine to rotary motion, making it suitable for a variety of industrial purposes, and invented the flywheel and the governor. In 1774 he went into partnership with Matthew Boulton to make steam engines at their works at Soho, Birmingham. The engines were used in collieries and iron works and were the driving force behind the transformation of cotton spinning from a cottage to a factory industry. Watt's many inventions included a letter-copier and a smoke-consuming furnace. But his improvements to the steam engine had the most lasting impact.

GEORGE HERIOT

George Heriot, (1563-1624) was an Edinburgh goldsmith who became jeweller to King James VI (James I of England) and his wife, Queen Anne. So lucrative was this business that George acquired the nickname "Jingling Geordie" and even loaned money to his Royal patrons, who pledged their jewels as security. Despite finding fame and fortune in London, George did not forget his native city. He left his wealth to fund a "hospital" for the education of orphan sons of the freemen of Edinburgh. Down the centuries, the trust's investments grew until by 1885 the Governors of George Heriot's Trust could afford to use surplus funds to support the Watt Institution and School of Arts. They joined forces to become Heriot-Watt College, the forerunner of Heriot-Watt University.



EXTRACT of MATRICULATION of the Arms of HERIOT - WATT UNIVERSITY



Whereas the Governors of Heriot-Watt College, for and on behalf of the said College, now the **HERIOT - WATT UNIVERSITY**, having by Petition unto the Lord Lyon King of Arms of date 9 December 1965 **Shewn** **THAT** the "School of Arts and Mechanics Institute" was established in Edinburgh in the year 1821 but—that the name of the said Institution was changed to the "Watt Institution and School of Arts" in 1854; **THAT** the name of the said Institution was further changed to the "Heriot-Watt College" in the year 1885 when the Governors of George Heriot's Trust (whose Arms are recorded of date 3 January 1917 in the Public-Register of All Arms and Bearings in Scotland, Vol. 25, folio 13) took over its administration; **THAT** -Ensigns Armorial were recorded in the said Public Register of Arms, Volume 41, folio 99, of date 8 August 1958 in name of the said Heriot-Watt College; **THAT** a Petition having been presented in April 1965

to Her Majesty in Council praying for the grant of a Charter of Incorporation to the said Heriot-Watt College, Edinburgh, under the name and style of "Heriot-Watt University", which said Charter was approved on 31 January 1966, and passed under the Seal on 23 March 1966; **AND** the Petitioners having prayed that the foresaid Ensigns Armorial might be matriculated of new in name of the Heriot-Watt University in manner conform to the academic status and dignity of the said University, The Lord Lyon King of Arms by Interlocutor of date 16 May 1966 Granted Warrant to the Lyon Clerk to matriculate in the Public Register of All Arms and Bearings in Scotland in name of the Heriot-Watt University the following Ensigns Armorial, videlicet:— **Per pale, two coats both demidiated; dexter, Barry of six Or and Azure, an oak-tree eradicated Vert; sinister, Argent, on a fess Azure between an open book undemidiated, binding Gules, in chief proper, and a mullet in base of the Second, three cinquefoils of the First.**

Matriculated the 20th day of July 1966.

Extracted furth of the 8th page of the 50th Volume of the Public Register of All Arms and Bearings in Scotland this 20th day of July 1966. 

N.B. Lawson.
Notary Public.
Deputy Clerk of the Records.



ABOVE:
Heriot-Watt
University tartan

LEFT:
Heriot-Watt University
grant of Arms, 1966

HERIOT-WATT UNIVERSITY ARMS

Heriot-Watt University was granted its Arms by the Lord Lyon in 1966. The design combines elements of the Arms of Watt and Heriot which have been part of our brand since Heriot-Watt College was formed in 1885.

The Arms were featured on Heriot-Watt College medals awarded to outstanding students as early as 1889. Elements of the heraldic design still decorate the pillars on the University's old building in Chambers Street, now part of the Edinburgh Sherriff Court. Lord Lyon, the government official responsible for all heraldic business in Scotland, granted a version of the Heriot-Watt University Arms to the College in 1958.

The current version dates from 1966, when Heriot-Watt gained its University status by Royal Charter. The shield is made up of two halves.

The right half (the left side, to the viewer) is made up of six bars alternating in gold and blue, derived from the coat-of-arms matriculated in England by James Watt's son, with superimposed on this a green tree, which is included in the heraldic design for the Arms of Watt and Watson in Scotland.

The left half is derived from half of the Heriot coat-of-arms, as used by Heriot's School. In this section, the design includes a central blue bar with one and one-half cinquefoils in silver. Above and below this are silver bars; the lower has half of the five-pointed star of the Heriot shield in blue, and the upper has an open book to indicate the educational status of the owner.

The colours used in the Arms are also echoed in the unique Heriot-Watt University tartan.





ABOVE:
Sir James Gibson-Craig
by Sir Henry Raeburn

LEFT:
Riccarton House

800 YEARS OF CAMPUS HISTORY: THE HIDDEN HISTORY OF RICCARTON

Heriot-Watt University's verdant Edinburgh Campus has a rich and turbulent past dating back over 800 years. The Riccarton estate is first mentioned in 1296 when Marioie of Ricardstone had to swear allegiance to King Edward I of England. By 1315 Robert the Bruce had regained the land and bestowed it as a dowry when his daughter Marjory married Walter, High Steward of Scotland.

By 1508 the Wardlaw family had built a fortified tower at Riccarton to protect themselves and their land. Of the subsequent owners the Craig (later Gibson-Craig) family of lawyers who bought the estate in stages from 1605, had the most influence. The family and estate survived the political turmoil of the seventeenth century and prospered by investing in agricultural improvements. By 1830 Sir James Gibson-Craig completed the transformation of Riccarton House into an elegant mansion, which hosted high society gatherings. The family owned most of the land in Currie and had close links with local community, establishing Currie market and giving land to build the first school.

However, the subsequent fate of the estate was deeply affected by war. Two heirs died in battle in 1900 and 1914. The army commandeered the house and estate in 1939 as the Scottish Command headquarters for the liberation of Norway. When the army gave up the estate in 1954 the house was structurally unsound. It was demolished in 1956. The family finally sold the estate to Midlothian County Council in 1969 and it was then gifted to the University. Today the University Library, Museum and Archive stand on the site of Riccarton House. Yet its mature parkland setting and fine estate buildings remain to this day. And another household of the old estate – the 17th century dower house at Hermiston – is now the Principal's residence.





ABOVE:
The High Mill, Scottish
Borders Campus

LEFT:
Heriot-Watt's Dubai
Campus

A TRULY SCOTTISH UNIVERSITY WITH GLOBAL REACH

Heriot-Watt University has three campuses in Scotland and one in Dubai. With its world wide distance learning community and academic partnerships Heriot-Watt is Scotland's most international University.

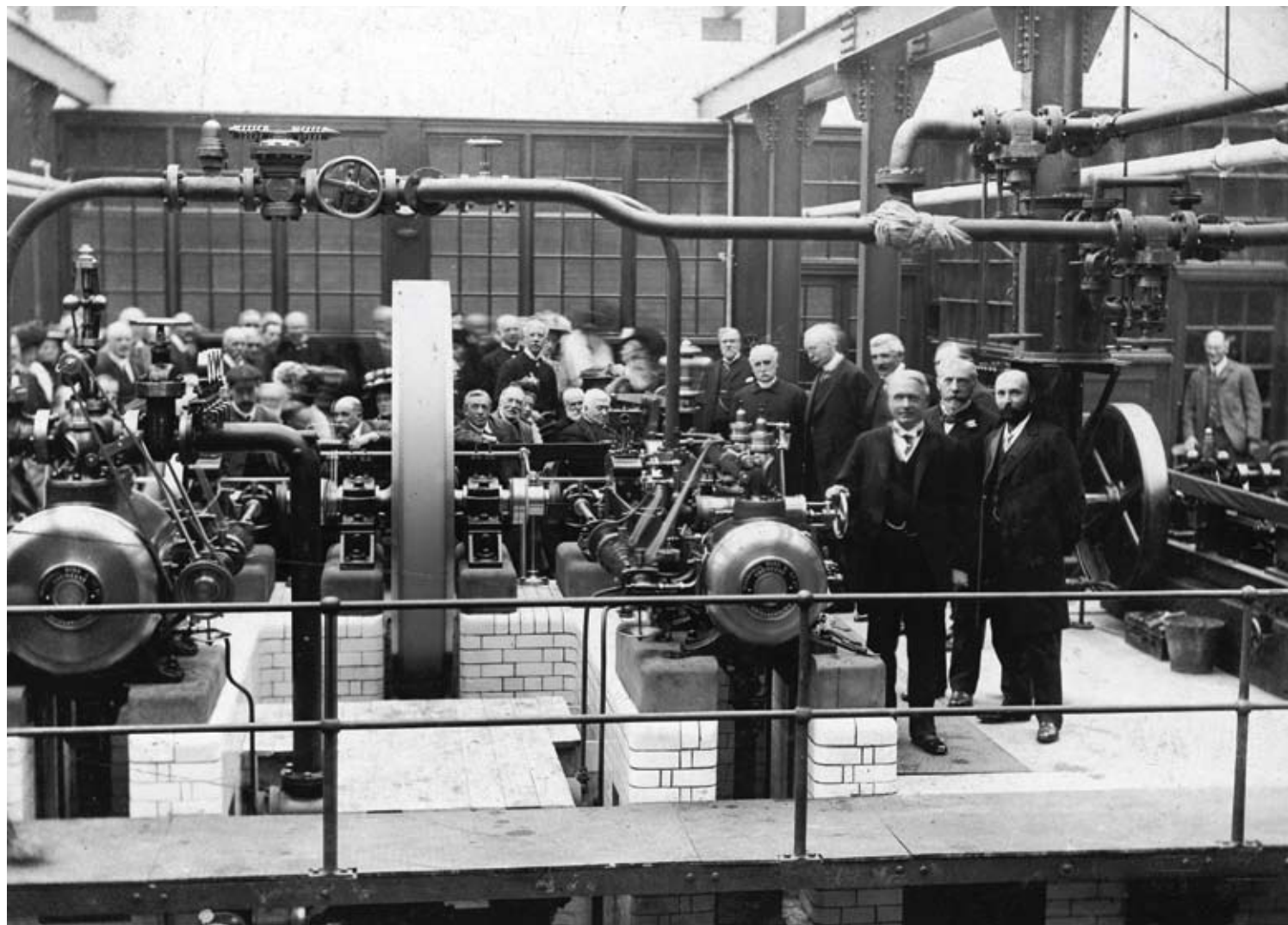
In addition to its Edinburgh Campus, Heriot-Watt has a pan-Scottish presence with campuses in Orkney and the Scottish Borders. Each reflects the University's unique heritage of providing education relevant to the needs of business, industry and society.

In the north of Scotland, the University's Orkney Campus supports its pioneering contribution to marine technology. Here the University formed its first industrial research partnerships in petroleum and offshore engineering as early as 1974 and opened the Orkney Water Test Centre at Flotta in 1987. The International Centre for Island Technology in Orkney was established in 1989 in the Old Academy in Stromness as part of the prestigious Institute of Petroleum Engineering. The Centre specialises in research, teaching and professional practice relevant to the sustainable economic

development of the islands and peripheral maritime regions and teaches a number of MSc courses in renewable energy and marine resource management.

The Scottish Borders Campus is in Galashiels which has a proud history as a centre of the textile industry. Opened in 1965, the campus has a heritage of innovation and excellence in textile education dating back to 1883. Today the campus is managed in partnership with Borders College. The campus is home to the School of Textiles and Design and runs courses for the School of Management and Languages.

The University founded its newest campus in Dubai 2005. Heriot-Watt was the first University to set up in the new Dubai International Academic City in recognition of its global reputation in the fields of engineering and management. This purpose built facility was officially opened in March 2006. It specialises in Petroleum Engineering, Management, Information Technology, Construction and Energy.



**ABOVE:**

Graduate at
Grangemouth
refinery, 2001

LEFT:

New Engineering
laboratories, 1908

SCIENCE AND ENGINEERING

Engineering and applied science has been at the heart of the University's programme from its inception and reflects the University's ability to react to a changing industrial landscape. Foremost among the first classes taught by the School of Arts were chemistry and mechanical philosophy – essential for workers in the emerging engineering industry. Students learned "such branches of science as would be useful to mechanics in the exercise of their trade".

The teaching of engineering and science flourished as the School's focus became more academic. In 1887 Heriot-Watt College appointed its first professors of in Physics and Mechanics, Chemistry and Engineering. Chairs in Civil, Mining and Chemical Engineering followed. From the 1970s the University's physics research has led to the development of the world's first optical computer and remote atmospheric sensing used to measure global climate change. Pioneering work in mechanical engineering includes the early development of computer-aided design and manufacturing. Research in electrical and electronic engineering has flourished with innovations in remotely operated underwater vehicles, and vision and image processing. A broad

spectrum of chemistry and chemical engineering research is applied to the challenges of a modern technological society from gas and oil to pharmaceuticals.

The emergence of the Scottish oil industry in the 1970s moved the University's focus away from traditional heavy industries. The teaching of mining was phased out from 1971. However, the Institute of Offshore Engineering was established in 1972 with a grant from the Wolfson Foundation with an emphasis on interdisciplinary research and land and marine conservation well as oil and gas exploitation. The University Grants Commission designated Heriot-Watt as a UK centre for petroleum engineering in 1974. Today the Institute of Petroleum Engineering is recognised internationally as one of the leading centres of excellence in petroleum engineering teaching, training and research.





ABOVE:
Marine biologists in the
Firth of Forth, 1985

LEFT:
Brewers and
biochemists, 1960s
Photograph: ©
The Scotsman
Publications Ltd

LIFE SCIENCES

The teaching of the life sciences – psychology, biological sciences, brewing, sport, food and marine science – reflects the University's ability to link with industry, focus on environmental issues and react to changes in society.

In 2004 the International Centre for Brewing and Distilling celebrated the centenary of brewing at Heriot-Watt University. When the first class was taught in 1904 brewing was part of biochemistry, but the discipline evolved until the separate Department of Brewing was established in 1950. In 1975 Anna MacLeod became the University's first female Professor. The Centre was established in 1988 as an industry/University partnership to provide research services for the brewing and distilling industries and undergraduate and postgraduate courses. Heriot-Watt is the only UK institution to offer both Honours and Masters degrees in Brewing and Distilling.

The expertise of the School of Life Sciences has expanded into biochemistry, food science, microbiology and marine biology. Proactive in developing teaching and research in marine science, Heriot-Watt was one of the first UK universities to establish a BSc in Marine Biology

in 1972. This discipline complimented Offshore Engineering and took a farsighted view of the need for responsible exploitation of the marine environment. The Centre for Marine Biodiversity and Biotechnology was established in 1999 to combine traditional studies with genetic analysis of marine organisms that could be applied to study and treatment of pollution and the sustainable use of natural resources. Environmental scientists at Heriot-Watt are now at the forefront of practical research and consultancy to support marine conservation.

Sport and Exercise Science was introduced in 2001. Based in the Sports Academy, the programme draws on other disciplines, including biology and psychology. In addition a new programme of psychology research, established in 2003, applies the science of mind and behaviour to the challenges of contemporary society.





ABOVE:
MBA graduates, 1995

LEFT:
Students using languages
laboratory, 1999

BUSINESS, MANAGEMENT AND LANGUAGES

The "great practical value" of languages to business and commerce was recognised as early as 1843, when the Edinburgh School of Arts offered classes in French. By 1882, students could learn Latin, Greek, Hindustani, Hebrew and Sanskrit. Spanish, Norwegian and Russian soon followed. Heriot-Watt College students of Commerce and Languages could follow commercial training which included précis writing, business correspondence, salesmanship, industrial law, banking and book keeping and economic history.

By 1966 languages formed part of the Industrial Administration and Commerce Department of the Faculty of Humanities. In the following year a new Department of Languages opened. In 1970 it broke new ground with the first BA Honours course in Languages for Interpreting and Translating in Scotland.

Today the School of Management and Languages is internationally renowned for its expertise in Accountancy and Finance, Economics, Languages and Intercultural Studies (LINCS) and Management. The School's research centres include the George Davies Centre for Retail Excellence, Centre for Economic Reform

and Transformation, the Logistics Research Centre and the Centre for Translation and Interpreting Studies in Scotland. Its specialisms range from applied linguistics and cultural studies, international banking and finance, and the challenge of low carbon logistics to international fashion marketing.

The Esmée Fairbairn Research Centre was established in 1970 to develop groundbreaking research in economics education. In 1990 it launched the world's first global distance learning Master of Business Administration (MBA). Using dedicated self-contained materials, students could complete the course at their own pace anywhere in the world without attending a single lecture or tutorial. The MBA, delivered from the Edinburgh Business School, based on the Edinburgh Campus, won the Queen's Award for Export Achievement in 1984 and 1999 making the Edinburgh Business School the only UK University department to achieve this double success. Today the Edinburgh Business School has over 11,000 MBA graduates in 150 countries.





ABOVE:
Students using surveying
equipment, 2000

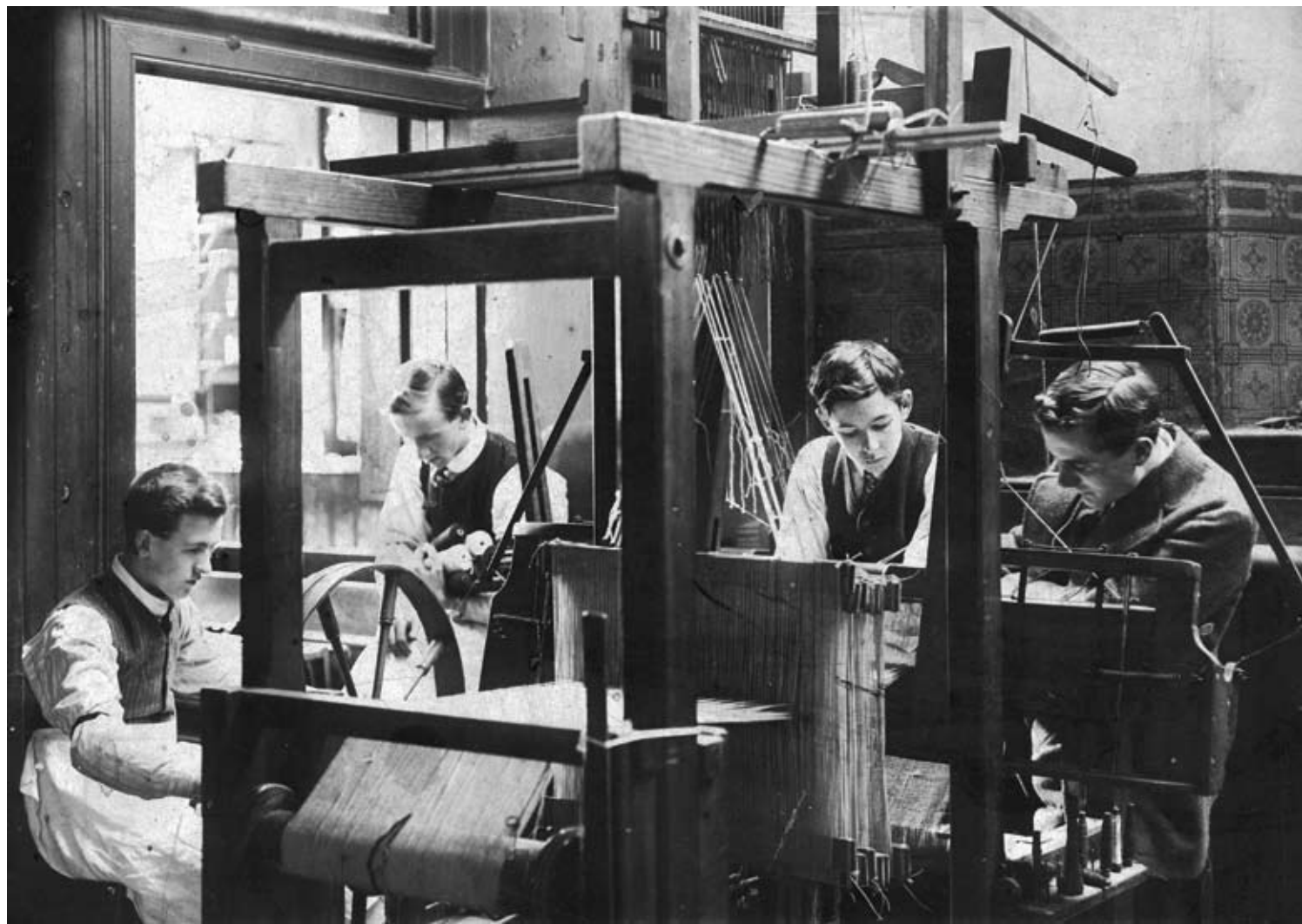
LEFT:
Early computing at
Heriot-Watt, 1966

COMPUTING, MATHEMATICS AND THE BUILT ENVIRONMENT

The teaching of Mathematics might seem a core skill for engineering and science – but this strangely was not one of the classes originally on offer in 1821. However, the students found that this glaring omission in the timetable was detrimental to their studies and grouped together to form their own maths class. The Directors of the School of Arts, in response to the students initiative introduced a class taught by the Reverend Andrew Wilson, in the second session.

Heriot-Watt entered the computer age in 1961 when it became the proud owner of a Ferranti Sirius. The new University launched a new degree course in computer science in 1966 – the first in Scotland. Today students work on Artificial Intelligence, Multimedia Systems and Biomedical Informatics. In 1972 Heriot-Watt became the first British university to develop an honours degree in Actuarial Science. The School of Mathematical and Computer Sciences is now internationally renowned for its research in the mathematical and computational sciences and is a world-leading centre of teaching and research in Actuarial Mathematics, Financial Mathematics, Probability and Statistics.

In keeping with its heritage as the first Mechanics Institute, Heriot-Watt College taught Civil Engineering and Building from 1887. From 1934, the Department of Building offered a comprehensive programme for construction managers. In 1966 the University established the first Scottish University BSc course in Building. Heriot-Watt taught degree courses in town planning in partnership with the Edinburgh College of Art from 1968. In 2002 the Department of Planning and Housing moved from the College to the University's School of the Built Environment. Today the School is Scotland's leading Built Environment research institution with an almost unique range of educational opportunities in planning, design, construction and development of our environment and infrastructure.





ABOVE:
Textiles and Design
fashion show, 2003

LEFT:
Textile students, 1913

TEXTILES AND DESIGN

Since its origins in 1883 the School of Textiles and Design has specialised in the education of professionals and practitioners in the global textile and clothing industry. In that year, the Galashiels Manufacturers Corporation established classes in weaving, dyeing and chemistry to help the Borders textile industry retain its competitive edge. In 1889 the Borough School Board took over the classes – and so the Galashiels Combined Technical School was born. By 1909 the School had been such a success that a new purpose built College was opened with a new name – the South of Scotland Central Technical College with the first principal Dr Thomas Oliver.

In 1922 the College became a Central Institution run by the Scottish Woollen Manufacturers Association and was renamed the Scottish Woollen Technical College – or “Woolly Tech” as it was affectionately known. Local mill owners served on the Board of Governors, ensuring that the curriculum evolved to meet the needs of the industry. From the 1950s the College responded to the decline of the local weaving industry by introducing textile technology, design and management classes. In 1968 its name changed to the Scottish College of Textiles to reflect the new emphasis. The College had moved in

1965 to a new purpose built campus in Netherdale, Galashiels. Throughout the following decades the College continued to diversify by developing SCOTWEAVE, a computerised design programme, and introducing garment manufacture and knitwear design.

In 1989 the College and University formed a joint Faculty of Textiles and went on to merge in 1998, creating Heriot-Watt’s Scottish Borders Campus. The School of Textiles and Design continues to work closely with industry developing biomedical and smart textiles. Today the School is one of the world’s leading textile institutions engaged in leading-edge research in textiles, design, fashion, clothing and colour science.





ABOVE:
The James Watt statue

LEFT:
Summer graduation
garden party, 2003

THE WATT CLUB

On the 12th of May 1854 a statue of James Watt was unveiled outside the Watt Institution and School of Arts in Adam Square. This statue now sits in pride of place at the entrance to the University's James Watt Centre.

After the unveiling ceremony, staff and students celebrated in the Guildford Arms until 2am and decided to form a club 'to sup together' on the anniversary of Watt's birth. The aims of the Watt Club were to honour the memory of James Watt, promote the interests of the School by encouraging people to enrol, and provide a fund for student prizes. By 1887 almost 1,000 prizes had been awarded. In 1890 the Club agreed that 'a medal should be given annually to the College'. Today, Watt Club Medals are still awarded to outstanding students.

Today the Watt Club is the oldest UK higher education institution alumni association and fosters lifelong links with alumni throughout the world, with branches as far afield as Norway, Malaysia and Canada. The Watt Club is a social and professional network, in touch with over 50,000 alumni worldwide. Through the Alumni Fund, graduates and friends of Heriot-Watt can support projects to enhance campus life and, through

scholarships and travel grants, create life-changing opportunities for individual students. One very successful initiative supported by the Fund is the Student/Alumni Mentoring Programme which provides support each year for the career development of current undergraduates.

Today's Watt Club remains true to the ideals of its founders, 150 years ago.



www.hw.ac.uk/wattclub

DISCOVER OUR HERITAGE

Our collections are our corporate memory, charting our development from our groundbreaking origins in 1821 as the Edinburgh School of Art, the first Mechanics Institute, which revolutionised access to education, to the present day. Our collections tell the fascinating story of our Edinburgh Campus from the time of King Robert the Bruce and provide an eye opening insight into three centuries of textile design in the shape of our inspirational textile collection at our Scottish Borders Campus. Art is also an integral part of our museum and archive collections which reflect our rich heritage and include works by Raeburn, Blackadder and Bellany.

To find out more about our art, museum and archive collections, the innovative story of two centuries of enlightened education at Heriot-Watt and the hidden history of our Edinburgh Campus, come and visit us.

HERIOT-WATT UNIVERSITY MUSEUM AND ARCHIVE

Mary Burton Centre
Level 1 Cameron Smail Library
Edinburgh Campus
Riccarton
Edinburgh EH14 4AS

Open on Mondays and Tuesdays from 1–4pm and by arrangement at other times. The Centre is closed when University buildings are closed.



0131 451 3218



archive@hw.ac.uk



FURTHER READING

Patrick N. O'Farrell: *Heriot-Watt University: An Illustrated History*
Pearson, 2004

Heriot-Watt University: *A Place to Discover; Your Guide to the Campus*,
Heriot-Watt University, 2006.

Heriot-Watt University: *Art and Academia: Your Guide to the Art Collection*
Heriot-Watt University, 2007

Produced by Press and Public Relations,
Heriot-Watt University

Copy written by Helen Taylor, Angela Edgar
and Ann Jones, Archive, Records Management
and Museum Service

Photography: Douglas McBride, Ken Patterson,
Laurence Winram and John Ruickbie

